

In re Application of RAJARAJAN et al.  
Serial No. 09/472,909

### **REMARKS**

The Office action has been carefully considered. The Office action rejected claims 1-32 under 35 U.S.C. § 112, second paragraph as being incomplete for omitting elements and essential structural cooperative relationships of elements. Further, the Office action also rejected claims 1-32 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,069,634 to Gibson et al. ("Gibson"). Applicants respectfully disagree.

Applicants thank the Examiner for the interview held (by telephone) on August 27, 2004. During the interview, the Examiner and applicants' attorney discussed the § 112 rejections and the claims with respect to the prior art. The essence of applicants' position is incorporated in the remarks below.

Prior to discussing reasons why applicants believe that the claims in this application are clearly allowable in view of the teachings of the cited and applied references, a brief description of the present invention is presented.

The present invention is directed to a method and system that may enable open, non-proprietary, and extensible visualization and modeling tools by providing multiple-way negotiations between model elements (*i.e.*, objects). A modeling element, as used herein and in the specification, may be an object, as is commonly used in object-oriented programming platforms, which may be capable of maintaining information about itself. As such, modeling element objects may maintain information about such attributes as nodes, connectability of nodes, communication protocols between other modeling element objects, and

In re Application of RAJAJAN et al.  
Serial No. 09/472,909

communication protocols with modeling element surfaces that may be part of a Visualization and Modeling Framework (VMF).

With the use of extensible modeling element objects, one embodiment of the invention is directed to a computer-readable medium having computer-executable instructions comprising providing a first and second modeling element object wherein each modeling element may be capable of negotiating connectability to one another. Communication between the two modeling element objects may be initiated by starting a "negotiation." Once the negotiation is completed, *i.e.*, successful communication of each modeling element object's connecting points (nodes) and their capabilities to one another, the first modeling element object may then be connected to the second modeling element object according to the negotiated connection point (node). In this manner, any modeling element object may interact and connect with any other modeling element object regardless of the particular proprietary application or platform from which each modeling element object originates.

Note that the above description is for example and informational purposes only, and should not be used to interpret the claims, which are discussed below.

Rejections Under §112, Second Paragraph

The Office action rejected claims 1-32 under 35 U.S.C. §112, second paragraph as being incomplete for omitting elements and essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary elements and structural connections.

In re Application of RAJARAJAN et al.  
Serial No. 09/472,909

The interpretation, however, of the term "modeling element" by the Office action is incorrect. A modeling element, as used herein and throughout the specification, may be an object, as is commonly used in object-oriented programming platforms, which may be capable of maintaining information about itself. Each modeling element object may function and interact in any suitable computing environment commonly referred to as a computer-readable medium. As is understood in the industry, a computer-readable medium may be a memory, a logic block, a computing environment, a platform, or any other means by which computers store, disseminate, manipulate or otherwise deal with information. Pages 8-9 of the specification provide a further description of a computer-readable medium. Thus, a computer-readable medium has traditionally been claimed in a language which provides a means in which computer functionality is accomplished.

Such language is not only compliant with §112, second paragraph, but specifically enumerated in the MPEP at 2106 V(C)A(2):

A means plus function limitation is distinctly claimed if the description makes it clear that the means corresponds to well-defined structure of a computer or computer component implemented in either hardware or software and its associated hardware platform. Such means may be defined as:

- a programmed computer with a particular functionality implemented in hardware or hardware and software;
- a logic circuit or other component of a programmed computer that performs a series of specifically identified operations dictated by a computer program; or
- a computer memory encoded with executable instructions representing a computer program that can cause a computer to function in a particular fashion...

In re Application of RAJARAJAN et al.  
Serial No. 09/472,909

... if the corresponding structure is disclosed to be a memory or logic circuit that has been configured in some manner to perform that function (e.g., using a defined computer program), the application has disclosed "structure" which corresponds to the claimed means.

Applicants submit that claims 1-32, in fact, do distinctly claim that which the applicants regard as their invention in sufficient structural language so as to not omit any essential elements such that claims 1-32 are in condition for allowance with respect to §112, second paragraph.

Rejections Under §102(b)

Turning to the prior art rejections of the claims, independent claim 1 recites a computer-readable medium having computer-executable instructions, comprising providing first and second modeling elements, each modeling element being adapted for negotiating connectability to one another, initiating negotiation between the first and second modeling elements, and enabling connection between the first modeling element and the second modeling element when the first modeling element allows the connection to the second modeling element and the second modeling element allows the connection to the first modeling element.

The Office action rejected claim 1 as being anticipated by Gibson. In misinterpreting the claim language, the Office action contends that Gibson teaches the recitations of claim 1. Because the Office action has misinterpreted the claim language, applicants submit that the rejection based on the incorrect interpretation remains unsupported.

In particular, Gibson is directed to a system for developing a model of volumetric object deformation where the model of the object is broken into sub-

In re Application of RAJARAJAN et al.  
Serial No. 09/472,909

model elements stored in a computer-readable medium. Having each sub-model element and associated relational information, the system of Gibson is able to maneuver each sub-model element within the model of the object without affecting all other sub-model elements. If one particular sub-model element is moved such that other nearby sub-model elements may be affected, the nearby sub-model elements are, in turn, maneuvered as well. However, the benefit of the system of Gibson is that only the affected sub-model elements are re-positioned when one sub-model element is maneuvered, as opposed to recalculating each and every sub-model element.

Gibson, however, is completely silent to the concept of object-oriented programming. To the extent that Gibson uses the term object, Gibson is simply referring to the object (*i.e.*, a box, a chair, a sphere, for example) that is being modeled. This is certainly not the same as an object as used in the context of object-oriented programming and the present invention.

Furthermore, sub-model elements, as used in Gibson, certainly cannot negotiate connectability as is recited in claim 1. There is no disclosure, whatsoever, in Gibson that even remotely resembles any object having the capability of negotiating a communication session, *i.e.* its own connectability. For at least these reasons, applicants submit that claim 1 is allowable over the prior art of record.

Applicants respectfully submit that dependent claims 2-21, by similar analysis, are allowable. Each of these claims depends either directly or indirectly from claim 1 and consequently includes the recitations of independent claim 1. As

In re Application of RAJARAJAN et al.  
Serial No. 09/472,909

discussed above, Gibson fails to disclose the recitations of claim 1 and therefore these claims are also allowable over the prior art of record. In addition to the recitations of claim 1 noted above, each of these dependent claims includes additional patentable elements.

Turning to the next independent claim, claim 22 recites a computerized modeling system comprising a first model element having a first communication mechanism, the first model element configured to negotiate via the first communication mechanism with other model elements for possible connection thereto, a second model element having a second communication mechanism, the second model element configured to negotiate via the second communication mechanism with other model elements for possible connection thereto, and a surface, the surface including a surface communication mechanism, and a negotiation mechanism configured to initiate negotiation between the first and second model elements via the surface communication mechanism.

The Office action rejected claim 22 as being anticipated by Gibson. In misinterpreting the claim language, the Office action contends that Gibson teaches the recitations of claim 22. Because the Office action has misinterpreted the claim language, applicants submit that the rejection based on the incorrect interpretation remains unsupported.

Again, the Office action has incorrectly interpreted the term "modeling element" as it is used in the specification and in claim 22. Gibson is completely silent to the concept of object-oriented programming. To the extent that Gibson uses the term object, Gibson is simply referring to the object (*i.e.*, a box, a chair, a

In re Application of RAJARAMAN et al.  
Serial No. 09/472,909

sphere, for example) that is being modeled. This is certainly not the same as an object as used in the context of object-oriented programming and the present invention. Sub-model elements, as disclosed in Gibson, cannot negotiate connectability through a communication mechanism therein as is recited in claim 22. There is no disclosure, whatsoever, in Gibson that even remotely resembles an object having a communication mechanism that provides the capability of negotiating a communication session, *i.e.* its own connectability. For at least these reasons, applicants submit that claim 22 is allowable over the prior art of record.

Applicants respectfully submit that dependent claims 23-31, by similar analysis, are allowable. Each of these claims depends either directly or indirectly from claim 22 and consequently includes the recitations of independent claim 22. As discussed above, Gibson fails to disclose the recitations of claim 22 and therefore these claims are also allowable over the prior art of record. In addition to the recitations of claim 22 noted above, each of these dependent claims includes additional patentable elements.

Turning to the last independent claim, claim 32 recites a computer-implemented method, comprising providing first and second modeling elements, each modeling element being adapted for negotiating connectability to one another, negotiating connectability between the first and second modeling elements, and concluding the negotiation of connectability by (i) enabling the connection of the first modeling element to the second modeling element when the first modeling element determines that it is connectable to the second modeling

In re Application of RAJARAJAN et al.  
Serial No. 09/472,909

element and the second modeling element determines it is connectable to the first modeling element, or (ii) canceling the negotiation of connectability.

The Office action rejected claim 32 as being anticipated by Gibson. In misinterpreting the claim language, the Office action contends that Gibson teaches the recitations of claim 32. Because the Office action has misinterpreted the claim language, applicants submit that the rejection based on the incorrect interpretation remains unsupported.

As discussed above, the Office action has incorrectly interpreted the term "modeling element" as it is used in the specification and in claim 32. Gibson is completely silent to the concept of object-oriented programming. To the extent that Gibson uses the term object, Gibson is simply referring to the object (*i.e.*, a box, a chair, a sphere, for example) that is being modeled. This is certainly not the same as an object as used in the context of object-oriented programming and the present invention. Sub-model elements, as disclosed in Gibson, cannot negotiate connectability through a communication mechanism therein as is recited in claim 32. There is no disclosure, whatsoever, in Gibson that even remotely resembles and object having a communication mechanism that provides the capability of negotiating a communication session, *i.e.* its own connectability. For at least these reasons, applicants submit that claim 32 is allowable over the prior art of record.

For at least these additional reasons, applicants submit that all the claims are patentable over the prior art of record. Reconsideration and withdrawal of the rejections in the Office action is respectfully requested and early allowance of this application is earnestly solicited.



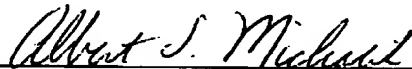
In re Application of RAJARAJAN et al.  
Serial No. 09/472,909

### CONCLUSION

In view of the foregoing remarks, it is respectfully submitted that claims 1-32 are patentable over the prior art of record, and that the application is in good and proper form for allowance. A favorable action on the part of the Examiner is earnestly solicited.

If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney at (425) 836-3030.

Respectfully submitted,



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In re Application of RAJARAJAN et al.  
Serial No. 09/472,909

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this Response, along with transmittal and facsimile cover sheet, are being transmitted by facsimile to the United States Patent and Trademark Office in accordance with 37 C.F.R. 1.6(d) on the date shown below:

Date: October 20, 2004

  
Albert S. Michalik

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